

L 13898-66 ENT(1)/T LJP(c) OO
ACC-NR: AF6003170

SOURCE CODE: UR/0030/65/000/012/0096/0097

AUTHOR: Vitol, I. K.; Zakis, Yu. R.; Kundzin', A. P.

62

ORG: none

B

TITLE: Study of electronic processes in thin film structures
(Symposium in Riga)

SOURCE: AN SSSR. Vestnik, no. 12, 1965, 96-97

TOPIC TAGS: thin film circuit, semiconducting film, pn junction, space charge, electronic conference, semiconductor carrier, electron emission, solid state physics conference

21, u4, 5

ABSTRACT: A symposium on electronic processes in thin film structures was held in Riga on May 20-25, 1965. The symposium was sponsored by the Scientific Councils on Semiconductor Physics and Chemistry and Physical Electronics of the Academy of Sciences SSSR, the Scientific and Technical Council of the Ministry of the Electronics Industry of the SSSR and the Latvian University im. P. Stuchki. A total of 350 representatives of scientific organizations from Moscow, Leningrad, Gorkiy, Tashkent, Vilnius, Kiev, Riga, and other cities attended the symposium. The following problems were discussed: physical mechanisms of the pas-

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L 13898-66
ACC NR: AP6003170

sage of current through thin film structures, currents limited by space charge, studying properties of contacts by studying the behavior of hot electrons in thin film systems, electron emission from thin gold films during passage of current, physics of contact phenomena; theoretical studies of electric and physical properties of thin films (particularly the study of statistical and pulse characteristics of triodes), theoretical studies of the behavior of carriers in thin films, and analysis of modern concepts of heterojunctions.

SUB CODE: 20/ SUBM DATE: *none*

TS
Card 2/2

L 11618-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD/GG
ACC NR: AT6002267 (N) SOURCE CODE: UR/2564/65/006/000/0319/0324
36
32

AUTHOR: Vitol, I. K.; Beyziter, L. K.

ORG: none

TITLE: Conditions of formation of single-crystal thin films on a non-single-crystal substrate [Paper presented at the Third Conference on Crystal Growing held in Moscow from 18 to 25 November, 1963]

SOURCE: AN SSSR. Institut kristallografii. Rost kristallov, v. 6, 1965, 319-324

TOPIC TAGS: single crystal growing, germanium single crystal, crystallization

ABSTRACT: Germanium films^{55,1} from 4 to 12 μ thick, obtained by evaporation onto various substrates (glass, quartz, Ta, W, Pt, steel, etc.), were used for zone crystallization.⁵⁶ The thermal conditions of two-dimensional zone melting were theoretically calculated. It was found that two-dimensional zone melting with an electron beam can be used to obtain thin single-crystal films of germanium on non-single-crystal substrates. The maximum size of the single-crystal region obtained was 7 mm, but this is not the limit. Best experimental results were obtained on the side of the substrate opposed to that which was heated. This

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L 114618-66
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4

confirms the hypothesis that the disorienting influence of the substrate on the growth of a thin single-crystal film can be minimized or eliminated by selecting a suitable thermal regime under which the crystallization angle $\varphi_{cr} > 0$. The experimental germanium films obtained on the tungsten substrate are preferentially oriented in the [111] and [100] directions relative to the plane of the substrate. Authors are deeply grateful to N. N. Sheftal' for discussing the results of the study, to A. P. Liyep for performing the numerical calculations, and to A. I. Vovsi and V. Ya. Krumin' for assistance in the experimental work.
Orig. art. has: 4 figures and 6 formulas.

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 009

TS
Card 2/2

SHVACHKIN, Yu.P.; VITOL, M.Ya.; SHPRUNKA, I.K.

Removal of glycine from reaction mixtures by a microbiological
method. Zhur. ob. khim. 34 no.10:3508-3509 O '64.
(MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova.

DAVANKOV, A.B.; VITOL, O.A.

Chemical transformations of granular copolymers of vinyl-toluene with divinylbenzene and other "cross-linking" agents.
Part 3: Incorporation of mobile chlorine atoms into the structure of copolymers of vinyltoluene with divinylbenzene by means of chlorination. Vysokom. soed. 5 no.10:1457-1460
O '63. (MIRA 17:1)

1. Moskovskiy khimiko-tehnologicheskiy institut imeni Mendeleyeva.

VITOL, O.A. [Vitols, O.]; IRGEN, L.A. [Irgens, L.]; KARLIVAN, V.P.
[Karlivans, V.], kand. khim. nauk, dots.; PREOBRAZHENSKAYA,
A.I.; L'VOVA, A.N., tekhn. red.

[Basic data on plastics] Osnovnye svedeniia o plasticheskikh massakh. [By] O.A. Vitol i dr. Riga, Rizhskii in-t inzhenerov grazhdanskogo vozдушnogo flota im. Leninskogo kom-somola, 1962. 176 p.
(MIRA 17:4)

DAVANKOV, A.B.; VITOL, O.A.

Chemical transformations of granular copolymers of vinyltoluene with divinylbenzene and other "cross-linking" agents. Part 2; Chloromethylation of copolymers of vinyltoluene with ethylene glycol- and diethylene glycol dimethacrylates. Vysokom.sod. 4 no.7:1093-1097 Jl '62. (MIRA 15:7)

1. Moskovskiy khimiko-tehnologicheskiy institut imeni
Mendeleyeva.
(Styrene) (Ethylene glycol) (Diethylene glycol)
(Chloromethylation)

S/130/62/004/007/008/009
B119/B180

AUTHORS: Davankov, A. B., Vitol, O. A.

TITLE: Chemical rearrangements of granular copolymers of vinyl toluene with divinyl benzene and other "crosslinking" agents.
II. Chloromethylation of copolymers of vinyl toluene with ethylene glycol and diethylene glycol dimethacrylates

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 7, 1962,
1093-1097

TEXT: The authors studied the chloromethylation of vinyl toluene - ethylene glycol dimethacrylate and vinyl toluene - diethylene glycol dimethacrylate in granular form (grain size 0.5-1.0 mm) by means of monochloro methyl ether in the presence of SnCl_4 and ZnCl_2 as catalysts. The content of ethylene glycol dimethacrylate and diethylene glycol dimethacrylate in the polymer was 2, 6, or 10%. Reaction time and catalyst concentration were varied in the experiments between 0.05 and 0.75 moles SnCl_4 , or 0.1 and 0.75 moles ZnCl_2 per base molecule of the copolymer. The following

Card 1/2

Chemical rearrangements of granular ...

S/190/62/004/007/008/009

B119/B180

optimum reaction conditions were found: reaction time 2-4 hr, depending on the content of crosslinking agent; 6-10% crosslinking agent in the copolymer; 0.3 moles ZnCl₂ per base molecule of copolymer in the reaction mixture. Copolymers containing 28.8% chlorine were obtained, corresponding to 158 chloromethyl groups per 100 benzene nuclei. Reaction times over 4 hr reduce an existing chlorine content (formation of methylene bridges with separation of HCl). Catalyst contents over 0.3 moles per base molecule of polymer cause a higher Cl content in the final product, but reduce its mechanical strength. There are 4 figures. The most important English-language reference is: K. Pepper, H. Paisley, M. Young, J. Chem. Soc., 1953, 4097.

ASSOCIATION: Moskovskiy khimiko-tehnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: May 3, 1961

Card 2/2

DAVANKOV, A.B.; VITOL, O.A.; FAYNGOR, B.A.

Chemical transformations of granular copolymers of vinyltoluene with divinylbenzene and other "cross-linking" agents. Part 1:
Chloromethylation of vinyltoluene and divinylbenzene copolymers.
Vysokom.sosed. 3 no.10:1566-1571 0 '61. (MIRA 14:9)

1. Moskovskiy khimiko-tehnologicheskiy institut imeni
D.I. Mendeleyeva.
(Benzene) (Toluene)

VITOL', R.K.; IOYLEVA, K.A.; STEPANOVA, G.A.; LAPIDES, I.L.

Adsorption properties of charcoal from coniferous and deciduous species growing in Karelia. Trudy Kar. fil. AN SSSR no.38:13-20 '63. (MIRA 18:3)

1. Petrozavodskiy gosudarstvennyy universitet (for Vitol', Ioyleva, Stepanova). 2. Institut lesa Karel'skogo filiala AN SSSR (for Lapides).

VITOL', R.V. [Vitols, R.V.], kand.sel'skokhoz.nauk

Acid content of silage. Zhivotnovodstvo 21 no.5:35-36 My '59.
(MIRA 12:?)
(Latvia--Ensilage)

VITOL, V.D.

Small-size furnaces heated up to 1000° for KROS-1 cameras. Zav.
lab. no. 6:753-754 '61. (MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut abrazivov i
shlifovaniya.
(X rays--Equipment and supplies)

VITOL, V.G.; KIRKO, I.M.

Modeling the skin effect in a ferromagnetic metal. Zhur. tekhn. fiz.
28 no.9:2055-2061 S '58. (MIRA 11:10)

1. Institut fiziki AN Latviyskoy SSR.
(Magnetic materials) (Electric currents)

S/032/61/027/006/013/018
B124/B203

AUTHOR: Vitol, V. D.

TITLE: Small-size furnace for 1000°C for KPOC-1 (KROS-1) chambers

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 6, 1961, 753 - 754

TEXT: 1) Chamber with vertical furnace (Fig. 1): To the rear stand of a KROS-1 chamber, slide 1 is attached, to which the furnace is fixed by nut 2. The furnace can be shifted along and transversely to the longitudinal axis of the chamber. Below furnace 3, in the middle, there is the projecting fixing device 4 for the groove of the specimen holder. Part of the furnace housing is directly flowed around by water, and represents part of the cooler 5. In the upper part of housing 6, the cooler 7 and the heater 8 are arranged; the latter is a wire of EN 597 (EN 597) alloy, which is spirally wound onto the refractory tube 9. The one end of the thermocorundum specimen holder 10 has a conically ground section and a fixing groove into which insert 4 is placed. In the holder, there is a square cavity for pressing in the material tested, and

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S/032/61/027/006/015/018
S:24/B203

Small-size furnace for 1000°C.

a cylindrical opening 1' for the thermocouple. The upper part of the holder is shut by cap 12 with the heat-insulating insert 13. The dimensions of the furnace with cooler, without the stand, are 70 × 38 mm; it is fed from the 220-v current network through a voltage stabilizer and a low-tension transformer. The voltage is controlled by an Δ M-1 (LATR-1) autotransformer. The wattage of the furnace is 400 w, the minimum heating time to 1000°C, 8 - 10 min. In such a chamber, it is possible to examine crystalline powders with a grain size up to 20μ with weighed specimens of 0.2 - 0.3 mg at elevated temperatures. The film is not heated because of the small reflecting specimen surface. 2) Chamber with horizontal furnace (Fig. 2): A tripod with the head of the specimen holder 2 is attached to the stand 1 of a KROS-1 chamber. In the head there are grooves for cooling with running water. Case 3 on ball bearings is belt-driven from a pulley on the common axis of the chamber. Cooler 4 is intended for additional cooling. On the one side of the case, there is an inner cone with the specimen holder 5, and on the other side, a thread with the holder 6 for the thermocouple. The case and the holder have inside, continuous cylindrical openings for the thermocouple 7. The

Card 2/5

Small-size furnace for 1000°C....

S/032/61/027/006/013/018
B124/B203

heating coil made of EN 597 alloy is placed in a tube, and is cemented with a heatproof mass. The tube is fixed to the cooler 8 which, in turn, is attached to a base connected with the tripod 9. In the front part of the specimen holder, there is a 2 mm deep, cylindrical cavity 10 into which the material to be tested is pressed. The head of the thermo-couple is only 0.2 mm distant from the radiation surface. The heat radiation surface of the specimen is larger than in the vertical type; therefore, the film must be protected from heat radiation at temperatures above 700°C by a film glued onto the outside of the casket. When X-raying in the chamber, not only the casket but also the specimen is rotating. Crystalline powders with a grain size up to 50 μ , and up to 2 mm thick plates can be examined. The wattage of the furnace is 500 w, its dimensions with cooler, without the wall, are 70 · 40 mm. Corundums, silicon carbides, boron carbide, etc. have been successfully tested in the furnace. There are 2 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut abrazivov i shlifovaniya (All-Union Scientific Research Institute of Abrasives and Grinding)

Card 3/5

8 (0)

SOV/112-59-1-86

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 1, p 7 (USSR)

AUTHOR: Kirko, I. M., and Vitol, V. G.

TITLE: Simulating the Skin Effect in a Ferromagnetic Metal

PERIODICAL: V sb.: Mezhvuz. konferentsiya po primeneniyu modelirovaniya v elektrotekhn. zadachakh i matem. modelirovaniya. M., 1957, pp 162-164

ABSTRACT: Penetration of a plane electromagnetic wave into a ferromagnetic half-space can be simulated by a one-dimensional circuit consisting of non-linear inductors and resistors. Each component of the circuit comprises a saturable ferromagnetic-core reactor, a resistor in series with the reactor, and a leakage resistor.

L.V.N.

Card 1/1

U7c1, b.6.

Call Nr: AF 1141779

AUTHORS: See Table of Contents

TITLE: Applied Magneto-hydraulic Dynamics; (Prikladnaya magnitogidrodinamika (Trudy instituta fiziki, VIII)

PUB.DATA: Izdatel'stvo Akademii nauk Latviyskoy SSR, Riga, 1956,
131 pp. 800 copies

ORIG. AGENCY: Akademiya nauk Latviyskoy SSR, Institut Fiziki

EDITORS: Editorial Board: Ed.-in-chief, Tyutin, I.A., Candidate of Technical Sciences, Kirko, I.M. Candidate of Physical and Mathematical Sciences, Vitol, V.G. Candidate of Physical and Mathematical Sciences, and Varchenya, S.A.; Tech.Ed.: Bokman, R.

PURPOSE: See Table of Contents

Card 1/5

Call Nr:AF 1141779

Applied Magneto-hydraulic Dynamics (Cont.)

COVERAGE: See Table of Contents

TABLE OF CONTENTS: 1. Kirko, I.M. Modeling Magneto-hydrodynamic Phenomena in Liquid Metals. 3-23

There are 11 references, of which 4 are USSR, 2 translations into Russian, and the others are English and Danish.

2. Tyutin, I. A., Yankop, E. K. Electro-magnetic Pumps for Liquid Metals (Brief Review of the Literature on the Status of the Problem. 25-48

There are 45 references, of which 24 are USSR, 19 English, 1 Italian, 1 Dutch.

Card 2/5

Call Nr AF 1141779

Applied Magneto-hydraulic Dynamics (Cont.)

3. Tyutin, I. A. Introduction to the Theory of Induction
Pumps. 49-58

There are 8 references, of which 5 are USSR, 2 American,
1 Danish.

4. Birzvalk, Yu.A., Tyutin, I. A. Speed Distribution
and Magneto-hydraulic Pressure Losses in a Rectangular
Channel. 59-63

There are 2 references, both USSR.

Card 3/5

Applied Magneto-hydraulic Dynamics (Cont.)

Call Nr: AF 1141779

5. Tyutin, I. A., Yankop, E. K. Electromagnetic Processes in Induction Pumps for Liquid Metals. 65-80

There are 4 references, of which 1 is USSR, 3 English.

6. Ul'manis, L.Ya. Boundary Effects in Linear or Induction Pumps. 81-94

There are 5 references, of which 4 are USSR,
1 American.

7. Liyelpeter, Ya.Ya. and Tyutin, I.A. Design Methods for
Induction Pumps for Liquid Metals. 95-106

There are 4 references, of which 3 are USSR,
1 American.

Card 4/5

Call Nr: AF 1141799

Applied Magneto-hydraulic Dynamics (Cont.)

8. Yankop, E. K. Single-phase a.c. pumps (Faraday
a.c. pumps) 107-121

No references are given

9. Krumin', Yu.K. A Conduction Ball Situated in a Traveling
Magnetic Field. 123-131

There are 4 references, 3 of which are USSR, 1 French.

AVAILABLE: Library of Congress

Card 5/5

VITOL, V.G.

p. 3.

PHASE I BOOK EXPLOITATION

SOV/3753

Akademija nauk Latviyskoy SSR. Institut fiziki

Elektromagnitnye protsessy v metallakh (Electromagnetic Processes in Metals)
Riga, Izd-vo AN Latviyskoy SSR, 1959. 200 p. (Series: Its: Trudy, No. 11)
Errata slip inserted. 1,000 copies printed.

Ed.: A. Teytel'baum; Tech. Ed.: A. Klyavinya; Editorial Board: V.G. Vitol,
T.K. Kalnyn', I.M. Kirko (Resp. Ed.), and Ya. Ya. Klyavin'.

PURPOSE: This book is intended for physicists interested in electromagnetic
processes in metals.

COVERAGE: This is a collection of fifteen articles by various authors on the
investigation of electromagnetic processes in metals by modeling. Individual
articles treat the following: conditions necessary for modeling particular pheno-
mena; modeling the magnetization of ferromagnetic metals in a variable field on
an iterated network consisting of choke coils with saturable reactors and
constant resistances; external fields produced by ferromagnetic tubes which have
been magnetized in a constant uniform field oriented along the axis; the possi-
bility of using galvanic baths and other models for investigating fields with

Card 1/5

Electromagnetic Processes in Metals

SOV/3753

continuously distributed electromagnetic forces, particularly turbulent fields; the magnetization of a system of interacting cylindrical particles; determination of the criterion relationships for the motions of an asynchronous engine rotor with similar mechanical characteristics (rotational moment, period of rotational oscillations around a point of equilibrium and attenuation ratio) when the slip is close to unity; the problem of computing the ponderomotive forces acting on a cylindrical conducting body placed in the traveling magnetic field of a cylindrical inductor; the motion of a sphere in magnetic hydrodynamics; the reflection and refraction of hydromagnetic waves of arbitrary polarization on the boundary of two ideal incompressible liquids with infinite conductivity; a study of phenomena in the turbulent flow of liquid metal in induction pumps under the effect of a traveling magnetic field; the operating principle of d-c pumps and the computation of their electromagnetic and hydraulic characteristics; abbreviating computations in designing linear induction pumps as suggested by I.A. Tyutin; nomographic computation of functions $\Phi(k', h)$ and $\Psi(k', h)$; and the construction of heaters producing thermal energy by an induced current. No personalities are mentioned. References accompany the articles.

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Electromagnetic Processes in Metals

SOV/3753

TABLE OF CONTENTS:

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Kalnin', R.K. Relationship Between the Magnetic Losses in a Ferrite Core With an Open Magnetic Circuit	73

Card 3/5

VITOL H C

4655 Magnetization of finite ferromagnetic cylinders

in alternating fields by V. V. Krasil'nikov, I. M. Krasil'

in: PSE Zbirn. Trud. fiz. in-ta SSSR, v. 1, p. 222

In Russian

Results of preliminary investigation of effect of

frequencies up to 10^6 cps and physical dimensions of ferromagnetic cylinders on components of magnetic permeability and on end-effects are presented in 14 graphs. Ranges of frequency and relative lengths above which properties of cylinders approach those of toroids are indicated.

[Handwritten signature]

AUTHORS: Vitol, V. G., Kirko, I. M. SOV/57-28-9-29/33

TITLE: Modelling of Surface Effect in a Ferromagnetic Metal
(Modelirovaniye poverkhnostnogo effekta v ferromagnitnom
metalle)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, /Vol 28,
Nr 9, pp. 2055-2061 (USSR)

ABSTRACT: The magnetization of a ferromagnetic metal in an alternating field is a complicated and non-linear process. It is very hard to describe it in mathematical terms. One of the authors (Kirko in Ref 3) suggested a tentative analog computer for these processes with a multiple unit circuit diagram incorporating reactive coils with saturating ferromagnetic cores and with constant resistances permitting to perform analog computations. This is a description of the analog computer. It incorporated 10 reactive coils, resistances preventing a leakage to ground and resistances ganged with the reactive coils. The model described is an analog computer, which permits to compute the magnetization or the resistance of a ferromagnetic metal in the alternating field with varying field strength. This accurate equipment also permits to carry out such computations at surface field strengths where the maximum permeability is reached

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Modelling of Surface Effect in a Ferromagnetic Metal SOV/57-28-9-29/33

at the surface of the ferromagnetic substance. The method by L. R. Neyman (Ref 1) did not permit this. By measuring the voltage drop $\Delta V'$ at each of the reactive coils the space distribution of magnetic permeability within a ferromagnetic substance under skin-effect conditions can be determined, using formula (14). Measurements made on the model permit the derivation of the law governing the shift of the maximum of magnetic permeability as a function of the magnetic field strength at the surface: formula (15). This method can also be applied in more complicated cases. There are 7 figures, 2 tables, and 5 references, 5 of which are Soviet.

ASSOCIATION: Institut fiziki AN Latviyskoy SSR (Institute of Physics, AS Latviyskaya SSR)

Card 2/2

V. G. Vitol, V. G.

Prikladnaya Magnitogidrodinamika (Applied Magnetohydrodynamics), Works of the Institute of Physics, Vol 8, edited by I. A. Tyutin, Candidate of Technical Sciences; I. M. Kirko, Candidate of Physicomathematical Sciences; V. G. Vitol, Candidate of Physicomathematical Sciences; and S. A. Varchenya; Riga, Publishing House of the Academy of Sciences Latvian SSR; 1956, 132 pp

Sum. No 1462

VITOL, V.G.

Battelle Technical Review
July 1954
Metals-Mechanical and
Physical Properties

10047* Analysis of the Magnetization of Finite Ferro-magnetic Cylinders in Constant Fields by the Method of the Theories of Dimensions and of Similarity. (Russian.) V. G. Vitol and I. M. Kirkin. Doklady Akademii Nauk SSSR, v. 93, no. 5, Dec. 11, 1953, p. 807-808.

Experimental data on cylinders of Armco iron, tool steel, and steels A-12 and U-10. Graphs. 9 ref.

VITOL, V. G., and KIRKO, I. M.

"Magnetization of Finite Ferrogagnetic Cylinders in Alternating Fields,"
Tr. In-ta fiziki AN LatvSSR, No 6, pp 39-55, 1953

Magnetic permeability at various frequencies of the alternating field measured on specimens of the same material but of different shapes by the bridge method was studied. Results confirmed assumptions by Yamashkovskiy and Kirko on lowering the demagnetization rate of the terminals of the specimen with higher field frequency. (RZhFiz, No 4, 1955)

SO: Sum, No 606, 5 Aug 55

VITOL, V. G.

"Magnetization of Finite Ferromagnetic Cylinders." Cand Phys-Math
Sci, Physics Inst. Acad Sci Latvian SSR, Riga, 1955. (KL, No 13, Mar 55)

SO: Sum. No. 670, 29 Sep 55—Survey of Scientific and Technical
Dissertations Defended at USSR Higher Educational Institutions (15)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120016-6

VITOL, V. N

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120016-6"

VITOL, V. N. In Latvian

VITOL, V. N. -- "New Method of Synthesizing Isoquinoline Derivatives."
Latvian State U, 1952. In Latvian (Dissertation for the Degree of Candidate of
Chemical Sciences)

SO: Izvestiya Ak. Nauk Latviyskoy SSR, No. 9, Sept., 1955

1. VANAG, G.Ya.; VITOL, V.N.
 2. USSR (600)
 4. Halogenation
 7. Halogenation of an oxime of 2-nitroindandione-1,3, G.Ya. Vanag, V.N. Vitol, Dokl. AN SSSR 89 no. 5, 1953.
9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953. Unclassified.

1. VITOL, V. N.; VANAG, G. YA.
2. USSR (600)
4. Indandione Derivatives
7. Halogenation of an oxime of 2-nitroindandione-1, 3, Dokl. AN SSSR, 89,
no. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Unclassified.

1. VANAG, G. Ya.; VITOL, V. N.
2. USSR (600)
4. Oximes
7. Halogenation of an oxime of 2-nitroindandione-1, 3. Dokl. AN SSSR 89, No. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Unclassified.

U.S./Human and animal physiology - The Nervous system. 742

Abs Jour : Ref Zhur - Biol., No 4, 1958, 18611

Author : V.Ya. Vital.

Inst :

Title : Changes in the Electroencephalograms of Schizophrenic Patients Undergoing Insulin Therapy.

Orig Pub : Neirofiziologiya i psichiatriya. Migr., Academy of Sciences, Leningrad USSR, 1956, 41-53

Abstract : No abstract.

Card 1/1

: U.S./Human and animal physiology - The Nervous System.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 18610

and a reduction in the strength of the α -rhythm.
The author suggests that insulin strengthens the inhibitory processes in the brain.

Card 2/2

L 27577-66 EWP(j)/EWT(m)/ETC(m)-6/T IJP(c) RM/HW

ACC NR: AP6018392

SOURCE CODE: UR/0374/65/000/005/0123/0127

A7
BAUTHOR: Vitol, Ya. V. (Riga)

ORG: none

TITLE: Coaxial capillary viscometer

SOURCE: Mekhanika polimerov, no. 5, 1965, 123-127

TOPIC TAGS: viscosity, viscosimeter, polymer

ABSTRACT: It is theoretically shown that the kinetic correction and velocity gradient in viscosity measurements can be reduced by using a capillary with an annular cross section instead of the usual circular cross section in capillary viscometers. An instrument is described with a capillary formed by the annular gap between two coaxial tubes. This viscometer may be used for studying the high-speed degradation of polymers in electrically conductive media by electrical contact determination of viscosity to fractions of a second with an accuracy of 0.1%. The reproducibility of readings is improved by sealing the measuring electrodes in the upper part of the reserve bulb, which remains dry during measurements. Time lapse is determined by an electronic millisecond timer which counts pulses with a frequency of 10 kc.

Orig. art. has: 1 figure, 1 table, and 9 formulas. [JPRS]

SUB CODE: 11, 20/ SUBM DATE: 13Apr65/ ORIG REF: 002/ OTH REF: 006

Card 1/1 CW

UDC: 678.532.137

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"APPROVED FOR RELEASE: 09/01/2001

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Card 1/2

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V, C, G, V

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860120016-6"

114672
S/197/62/000/012/001/002
B104/B186

24.68/0

AUTHORS:

Vitolin', A., Kirshteyn, G., Krumin', Yu.

TITLE:

Measurement of the magnetic field strength in the experiment with electron paramagnetic resonance

PERIODICAL: Akademiya nauk Latviyskoy SSR. Izvestiya, no. 12(185), ✓
1962, 57-66

TEXT: Two variants of an apparatus have been developed by which frequency marks and e.p.r. spectra are simultaneously recorded on a tape. The magnetic field is stabilized by proton resonance. The first variant uses a superheterodyne frequency measuring method. Principle: Two signals are fed to the mixer tube: that of the frequency to be measured, and that of the voltage of a quartz resonator with comparatively low fundamental frequency, ν_0 . The mixer tube is connected with a narrow band amplifier adjusted for the frequency $\nu_0/2$. A signal is given at the amplifier output if the frequency to be measured is equal to a frequency lying between two harmonic oscillations of the quartz generator. This

Card 1/2

Measurement of the magnetic ...

S/197/62/000/012/001/002
B104/B186

signal produces a pulse which records a mark on the tape. The second variant uses a resonance frequency measuring method in which the input impedance of an artificial long line (connected as anode load) changes with the frequency of the input signal. A field marker correlates the measured frequencies and the resonance spectrum on a tape. There are 7 figures.

ASSOCIATION: Institut fiziki AN Latv. SSR (Institute of Physics AS LatSSR)
SUBMITTED: April 24, 1962

Card 2/2

VITOLINI, M. [Vitolins, M.]; MELZOBS, M.

Mechanism of the sensitizing influence of ganglion blocks on the effect of noradrenaline and adrenaline. Vestis Latv ak no.7:97-101 '61.

(NERVOUS SYSTEM, SYMPATHETIC)
(NORADRENALINE) (ADRENALINE)

L 12027-66 EWT(1)/EWA(j)/EWA(b)-2
ACC NR: AP6001291

RO

SOURCE CCDE: UR/0197/65/000/008/0119/0123

AUTHOR: Vitolin', R.

ORG: Riga Medical Institute (Rizhskiy meditsinskiy institut) 35

TITLE: Effect of apomorphine on sensitivity of adrenergic receptors B

SOURCE: AN LatSSR. Izvestiya, no. 8, 1965, 119-123

TOPIC TAGS: nervous system drug, experiment animal, adenocorticotropic hormone, nervous system, nerve fiber

ABSTRACT: The study involved the effect of varying doses of intravenous apomorphine on endogenous pyrocatechamines. It was conducted in cats anesthetized with chloralose. Stimulation was effected by electricity, epinephrine hydrochloride and norepinephrine butyrate. Irritation of sciatic and splanchnic nerve and the preganglionic fibers of the neck sympathetic nerve trunk were used in the tests. Doses of 0.025 mg-7 mg/kg enhanced pressor response to stimulation of the sciatic and splanchnic nerves. Large doses (up to 30 mg/kg) reversed the pressor effect of epinephrine, diminished that of norepinephrine and decreased the pressor response to stimulation of sciatic and splanchnic nerves. They also decreased contraction of the nictitating membrane caused by sym-

Card 1/2

L 12027-66

ACC NR: AP6001291

pathetic trunk stimulation. Cats eviscerated under chloralose anesthesia according to the Feldberg and Minz method received apomorphine injections directly into the adrenals (10-16 mg); this diminished or inhibited release of catecholamines from the adrenals in response to acetylcholine. Orig. art. has: 7 figures.

SUB CODE: 06, 07/ SUBM DATE: 04May65/ ORIG REF: 002/ OTH REF: 001

Card

OC
2/2

L 08815-67 EWT(1) TT/FDN/AT
ACC NR: AT6023094 (A)

SOURCE CODE: UR/3200/65/000/004/0157/0168

24

AUTHOR: Vitolin'sh, Ya. A.

ORG: none

TITLE: Characteristics of a dual purpose, brushless synchronous machine designed to operate either as a motor or as a generator¹⁵

SOURCE: AN LatSSR. Institut energetiki. Beskontaktnye elektricheskiye mashiny, no. 4, 1965, 157-168

TOPIC TAGS: electric motor, synchronous motor, synchronous generator

ABSTRACT: An experimental modification of a synchronous motor designed to perform as a motor or as a generator is described. While this unit can be used to generate emergency ac power, it is normally used as a synchronous motor. The stator was rewound and the number of turns increased and the wire diameter was decreased. The power output of this unit, operating in the motor mode, was therefore reduced. The motor was attached to a vacuum pump of an automatic milking machine. Several versions of this unit, with different numbers of turns, were produced and tested. The original overall dimensions were preserved. The final version had the following parameters:

Card 1/2

L 08815-67

ACC NR: AT6023094

	Motor	Generator
Power	3.3 kw	3.9 kw
Angular velocity	1500 rpm	1500 rpm
Stator voltage	380 v	380 v
Stator current	5.95 a	5.9 a
Frequency	50 cps	50 cps
Efficiency	0.84	0.85
Exciter voltage	32 v	43 v
Exciter current	1.95 a	2.65 a

An internal combustion engine was used when operating the unit as a generator to drive it. The author states that while the synchronous machine is efficient in either mode, in the design stage an optimum performance in a specified mode must be chosen. Orig. art. has: 11 figures, 2 tables.

SUB CODE: 09/ SUBM DATE: none/ ORIG REF: 001

Card 2/2 net

"Stilevye osobennosti latyshskoy narodnoy pesni godovogo zemledeli 'cheskogo tsikla.'

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,
Moscow, 3-10 Aug 64.

VITQLIN!, Ya.Ya., zootehnik.

Swine breeding in Denmark. Nauka i pered.op. v sel'khoz. 6 no.12:53
D '56.
(Denmark--Swine)

POPOVA, Lyudmila Alekseyevna; FOLIS, A. [translator]; VITOLINS, G., red.;
KIRULE, E., tekhn. red.

[Chicken pox in children] Veja bakas. Riga, Latvijas Valsts izdevnieciba, 1960. 12 p. [In Latvian translated from the Russian]
(MIRA 14:12)
(CHICKEN POX)

MAJORE, Marija; VITOLINS, G., red.; SFORANE, V., tekhn. red.

[Development of the Daugava Valley] Daugavas ielejas
attīstība. Riga, Latvijas valsts izd-va, 1962. 76 p.
(MIRA 17:1)

KORNBLOUMA, Olga; VITOLINS, G. [translator]; BLANKFELIS, G., red.; ZAGARS, A.,
tekhn. red.

[Tuberculosis and its prevention] Tuberkuloze un tas profilakse.
Riga, Latvijas valsts izdevnieciba, 1961. 27 p. (MIRA 15:3)
(TUBERCULOSIS—PREVENTION)

ZHULKOVSKIY, V.K.; PAVULE, A.[translator]; VITOLINS, G., red.; ZAGARS, A.,
tekhn. red.

[Gastritis and ulcer] Gastriti un culas slimiba. Riga, Latvijas
valsts izdevnieciba, 1961. 76 p.
(MIRA 15:3)
(STOMACH--INFLAMATION) (STOMACH--ULCERS)

VITOLIN'SH, A. [Vitolins, A.]; MUTE, A.

"Elektroson," a new electron device with semiconductor triodes
for the treatment of nervous disorders [with summary in English].
Vestis Latv ak no:1:105-110 '62; ak no:1:111-112 '62.

1. Institut fiziki AN Latviyskoy SSR.

VITOLIN'SH, A. [Vitolins, A.]

Electronic method for measuring the ratio of two variable magnitudes;
electronic divider. Vestis Latv ak no.3:25-32 '62.

1. Institut fiziki AN Latviyskoy SSR.

VITOLIN'SH., A. [Vitolins, A.]; ZUSH, Ya. [Zuss, J.]

Experimental study of the response time of a trigger circuit using
drift transistors. Vestis Latv ak no.3:33-38 '62.

1. Institut fiziki AN Latviyskoy SSR.

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3/197/62/000/003/001/002
B104/B102

7 9560

AUTHORS: Vitolin'sh, A., Zush, Ya.

TITLE:

An experimental investigation of the quick-operation of a trigger made of diffusion-type transistors

PERIODICAL: Akademiya nauk Latviyskoy SSR. Izvestiya, no. 3(176), 1962,

33 - 38

TEXT: The construction of triggers made of diffusion-type transistors with starting frequencies > 10 Mcps is studied. In analogy to vacuum-tube triggers the band width of such triggers is estimated to

$S/2\pi C = (120 \dots 240) \cdot 10^6$ cps. $S = \partial I_2 / \partial U_1 |_{U_2=\text{const}} = (38 \dots 19)$ ma/v, C is

the sum of shunting capacitances ($C \approx 25$ pf). The maximum pulse repetition frequency is $1/2 \tau_r$, τ_r being the recombination time. The quick operation

of diffusion-type transistors makes quick-acting starting and clamping diodes necessary. The maximum starting frequency of the trigger shown in Fig. 2 is 20 Mcps. The starting-pulse height at the input of the pulse

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B104/B102

An experimental investigation of ...

shaper should be 2.2.v, the pulse height at the trigger output is 2.4 v.
6402 (P 402) and 6403 (P 403) triodes and diodes with a recombination
time of $3 \cdot 10^{-8}$ sec were used in the circuit. The recombination times of
the diodes limit the frequency band. There are 1 table and 3 figures.

ASSOCIATION: Institut fiziki AM Latv. SSSR (Institute of Physics of the
AS Latviyskaya SSR)

SUBMITTED: May 30, 1961

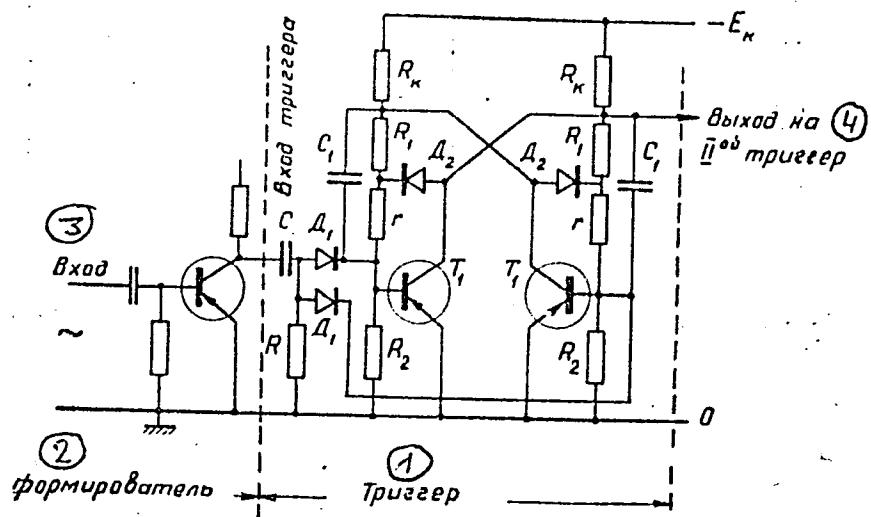
Fig. 2. Trigger with pulse shaper. Legend: (1) trigger; (2) pulse
shaper; (3) input; (4) output to second trigger.

Card 2/3

An experimental investigation of ...

S/197/62/000/003/001/002
B104/B102

Fig. 2



Card 3/3

VITOLIN'SH. O.M., inzhener.

Economical aspects of precision punch press work. [Izd.] LOMITOMASH
vol.40:228-233 '56.
(Punching machinery) (Sheet metal work)

L 1694-66 EWT(1)/EPA(s)-2

ACCESSION NR: AP5017171

UR/0197/65/000/006/0079/0086

AUTHOR: Vitolin'sh, Ya.; Glukhov, V.; Kutsevalov, V.; Obushev, G.

TITLE: Investigation of a compound-wound contactless synchronous motor

SOURCE: AN LatSSR. Izvestiya, no. 6, 1965, 79-86

TOPIC TAGS: electric motor, synchronous motor, contactless motor /S051-6 motor

ABSTRACT: The results of an experimental investigation of a S051-6, 3-kw, 1000-rpm compound-wound contactless synchronous motor are reported. Special attention was paid to the motor overload capacity and stability of operation under varied supply-voltage conditions. These findings are offered: (1) The motor control system maintains $\cos \varphi = 1$ within $\pm 3\%$ in the entire load range up to the out-of-step point; (2) When the supply-voltage decreases (increases), the motor draws leading (lagging) current, thus tending to assist in maintaining the normal supply voltage; (3) The motor exhibited stable operation at 81, 71, and 62% of the rated supply voltage with 100, 75, and 50% full load, respectively. Orig. art. has: 5 figures and 1 formulas.

Card 1/2

L 1694-66

ACCESSION NR: AP5017171

ASSOCIATION: Institut energetiki AN LatSSR (Institute of Power Engineering,
AN LatSSR)

SUBMITTED: 03 May 65

NO REF SOV: 002

ENCL: 00

OTHER: 00

SUB CODE: EE

Card 2/2

BELEN'KIY, M.L.; VITOLINYA, M.A. [Vitolina,M.]

Effect of phenamine on the adrenal glands. Farm. i toks. 26
no. 62673-674 N-D '63 (MIRA 18:2)

1. Kafedra farmakologii (zav.-chlen-korrespondent AMN SSSR
prof. M.L. Belen'kiy) Rizhskogo meditsinskogo instituta.

VITOLD, Ben' [Witold Bien] (Varshava).

Accounting in construction work. Bukhg.uchet 15 no.10:48 0
'56. (MLRA 9:11)
(Construction industry--Accounting)

VITOLIN', O. [Vitolins, O.]; VAL'TER, M. [Valters, M.], red.; ROZE, A.,
tekhn.red.

[Effect of small angles of inclination of the bottom die
cavity on the economic accuracy of forged parts and the
life of the die] Vliianie malykh uglov ukloona rabochego ot-
verstiiia matritsy na ekonomichnuiu tochnost' shtampovanniykh
detalei i srok sluzhby shtampa; radioelektrotekhnicheskaiia
i metalloobrabatyvaiushchaia promyshlennost'. Riga, TSentr.
biuro tekhn. informatsii, 1962. 15 p. (MIRA 16:4)
(Forging) (Dies (Metalworking))

VITOLIN, Ya.Ya.

Fattening swine for meat. Nauka i pered.op.v sel'khoz. 7
no.6:44-45 Je '57. (MIRA 10:7)

1. Latviyskiy institut zhivotnovodstva.
(Swine--Feeding and feeding stuffs)

VITOLINYA, M.A.

USSR / Pharmacology, Toxicology, Chemotherapeutic Agents. U-7

Abs Jour : Ref. Zh.-Biol., No 2, 1958, No 8181

Author : Vitolinya, M. A.

Inst :

Title : Further Studies of the Pharmacology and Toxicology of Tubazid.

Orig Pub : Sb. Nauch. Rabot Tizhsk. Med. In-T, 1956, Vyp. 5, 37-44.

Abstract : Convulsive seizures were provoked by auditory and partially by respiratory center stimulants during the administration of subthreshold doses of tubazid. Convulsions were not precipitated by stimulating the vomiting center in cats with apomorphine or by causing an increase in the animal's motor activity (by placing the animals in a water-filled jar). The dose which caused convulsions in 50% of experimental

Card : 1/2

BELEN'KIY, M.L.; VITOLINYA, M.A. [Vitolina, M.]

Effect of reserpine on the reserve of pyrocatecholamines in the
rabbit and cat body. Farm. i toks. 27 no.1:15-16 Ja-F '64.
(MIRA 17:11)

1. Kafedra farmakologii (zav. - chlen-korrespondent AMN SSSR
prof. M.L. Belen'kiy) Rizhskogo meditsinskogo instituta.

VITOLINYA, M. A. Cand Biol Sci -- (diss) "Experimental study of the pharmacological and toxicological peculiarities of tubazide (isonicotinic-acid hydrazide)." Riga, 1957. 16 pp (Min of Health Latvian SSR. Riga Med Inst), 300 copies (KL, 11-58, 115)

"APPROVED FOR RELEASE: 09/01/2001

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VITOLINYA
VITOLINYA

USSR/Pharmacology. Toxicology. Chemotherapeutic Preparations
A) Antibiotics

V

Abs Jour : Ref Zhur - Biol., No II, 1958, No 52087

Author : Vitolinva M.A.

Inst : Riga Medical Institute

Title : The Effect of Vitamin Administration on the Tolerance of
White Mice to Tubazid (Hydrazide of Nicotinic Acid)

Orig Pub : St. nauchn. rabot Rizhsk. med. in-t, 1956, vyp 6, 5-7

Abstract : Results of studies concerning the effect of some vitamins
on the tolerance of white mice to tubazid (I) are report-
ed. Prolonged administration of vitamin PP (22 mg/kg), B₁,
(4.3 mg/kg,) I. (43000 units/kg) and D (2200 units/kg) not
only failed to increase the tolerance of the animals to the
toxic action of I, but even decreased it. It is possible
that the toxic action was due to I, but to the products
of I breakdown in the organism and that, with the adminis-
tration of vitamins, the activity of enzymes participating
in the chemical degradation of I increased. -- V.I. Yel'nik

Card : 1/1

VITOLINYA, M.A.

BELEN'KIY, M.L.; VITOLINYA, M.A.

Effect of veratrine on the cholinergic systems. Biul.eksp.biol.
i med. 37 no.5:9-11 My '54. (MLRA 7:7)

1. Iz kafedry farmakologii (zav. prof. M.L.Belen'skiy) Rizhskogo
meditsinskogo instituta (dir. zasluzhennyy deyatel' nauki Latviy-
skoy SSR chlen-korrespondent AMN SSSR prof. E.M.Burtniyek)

(VERATRINE, effects,

*on carotid sinus in decerebrated cats)

(CAROTID SINUS, effect of drugs on,

*veratrine, in decerebrated cats)

(BRAIN, physiology,

*decerebration, eff. of veratrine on carotid sinus in
decerebrated cats)

YUGOSLAVIA/Cultivated Plants - Fruits. Berries.

M-6

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30076

Author : Vitolovic, V.

Inst : -

Title : The Distribution of Grape Varieties in the Vineyards of Istria.

Orig Pub : Agron. glasnik, 1957, 7, No 1-2, 42-51 (Serbo-croatian)

Abstract : No abstract.

Card 1/1

- 40 -

VIT LOVTC, V.

Some problems in the development of our fruit culture; also, a discussion of and conclusion on this report.

p. 286 (Poljoprivredni Pregled. Vol. 5, no. 4/5, Apr./May 1956. Sarajevo, Yugoslavia)

Monthly Index of East European Accessions (EMI) LC. Vol. 7, no. 2,
February 1958

VITOLOVICH

JUGOSLAVIA (SERBO-CROATIA)/Cultivated Plants - Fruits. Berries. L-6

Abs Jour : Ref Zhur - Biologiya, No 16, 25 Aug 1957, 69368

Author : Vitolovich

Inst :

Title : Vegetative Growth and Vitality of Apple Species on Shallow Soils Bedded on Limestone.

Orig Pub : Radovi Nauc. drustvo NR BiH, 1955, 5, 111-129

Abst : Results are given for tests on 13 apple varieties grafted on the "dusen". The tests were conducted in an agricultural school in Poreche (Western Istria) from 1934 to 1955 under unirrigated conditions. Spaces between rows were sodded and only circles surrounding the trunks were dug up to a diameter of 1.3 m. The data as to tree sizes, trunk diameters, added growth and species adaptability to arid conditions are given.

Card 1/1

POPENS, Ya. [Popens, J.]; SILLINS, E. [Silins, E.]; VITOLS, I.;
Prinimala uchastliy FREIMANE, I. [Freimane, I.]

Fluorometric determination of 11-hydroxycorticosteroids in human
blood plasma. Vop. med. khim. 8 no.6:628-634 N-D '62.
(VIRA 17:5)

1. Institut eksperimental'nyy i klinicheskoy meditsiny AN
Latviyskoy SSR, fiziko-matematicheskiy fakul'tet Latviyskogo
universiteta imeni Vetera Struchka, Riga.

VITOIS, P. M.

Vitols, P. M. - "Deposits of building sand in the Latvian SSR", Izvestiya Akad.
nauk Latv. SSR, 1949, No. 4, p. 75-79, (In Latvian, resume in Russian).

SO: U-4392, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

VITCIS, V.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Organic Chemistry

4

③ Chem

The molecular compound of mercury iodide with ethyl iodooacetate, V. Vanags and V. Vitcis, Kim. Inst. Zinātņu Raksti, Latvijas PSR Zinātņu Akad., 1, 97-100 (1950) (in Latvian).—Et (triiodomercury)acetate, $\text{I}_3\text{HgCH}_2\text{CO}_2\text{Et}$ (I), obtained in 21-g. yield by refluxing 40 g. $\text{K}_3\text{HgI}_4 \cdot 2\text{H}_2\text{O}$, dried in desiccator and dissolved in 60 ml. dry Me_2CO , with 12 g. $\text{CICH}_2\text{CO}_2\text{Et}$ 1-1.5 hrs. on a water bath, filtering off the KCl , evapg. part of the Me_2CO *in vacuo*, and dissolving with CHCl_3 , yellow crystals, m. 118-17°, dissolves in Me_2CO , MeOH , EtOH , AcOEt , Et_2O , and PhNH_2 , does not dissolve in C_6H_6 , PhMe , ligroine, CHCl_3 , CS_2 , and CCl_4 . I forms with dioxane a brown unstable mol. compd., m. 148-7°, and with 3 mols. pyridine a white mol. compd., m. 104-6°; which with concd. HCl yields a yellow mol. compd. with 2 mols. pyridine, m. 117-18°. E. G. M.

Oxime of 2-nitro-1,3-indandione. *C. R. Acad. Sci. URSS*, 1952, No. 7 (V. M. S. 60), 107-15 (in Russian; Latvian summary, 107-13). The hydroxylamine salt (I), m. 152°, pale-yellow and transformed to oxime before melting, of 2-nitro-1,3-indandione (II) was prepd. by mixing hot aq. solns. of NH₂OH·HCl (3 g. in 20 ml.) and II (5 g. in 30 ml.). II was sol. in water and EtOH, and insol. in ether, chloroform, and benzene. Oxime (III) of II was prepd. by heating I with water on the water bath for several weeks. III, m. 153-4°, greenish-yellow platelets, was sol. in H₂O (approx. 0.8%), Me₂CO, EtOH, glacial AcOEt, and AcOEt, but insol. in Et₂O, CHCl₃, and C₆H₆. III gave an orange soln. in alkali. It was not possible to prep. the dioxime of II. The semicarbazone (IV) of III was prepd. by heating 5 g. III with 2.7 g. semicarbazide-HCl in glacial AcOEt in presence of NaOAc. IV was dark red, m. 193-5° (decompn.). Refluxing 5 g. III with 25 ml. III (d. 1.62) and 5 g. red P, gave 2-amino-1,3-indandione (V), decompn. 150°, yellow crystals. 2-Azido-1,3-dieneamino-1,3-indandione, orange-red, m. 195-6°, was prepd. by dissolv. of 0.2 g. V in benzaldehyde and addn. of (NH₄)₂CO₃. The structure of III was shown to be correct through hydrolysis with HCl, dil. and concd. sulfuric acid and by oxidation with H₂O₂ and K₂Cr₂O₇.

Bromination of 1-nitro-3-methoxybenzene monomer.

Reaction of 1-nitro-3-methoxybenzene monomer (III) in the presence of bromine and $\text{MgO} \cdot \text{H}_2\text{SO}_4$. The reaction mixture was refluxed at 100°C for 15 minutes in benzene. After cooling, the reaction mixture was diluted with water and extracted with ether. The ether extract was dried over sodium sulfate and the ether was removed by distillation.

Analysis:

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VITOL'S, V.

3

USSR

Decomposition of 2-nitro-1,3-indandione-oxime in acetic acid. V. Vitols and G. Vener. *Lettres P.N.R. ZSsnyka* 1954, No. 1 (whole No. 83), 131 (in Russian).
--Nitrosocadzene (II) was prepared by heating 2-nitro-1,3-indandione-oxime (5 g.) with dilute AgOEt (20 g.) in 5.2% H_2O (I). Adding one drop of nitric acid when the reaction started increased the yield to 10.4%. It was dark red, rhombic crystals, which dissolved in CHCl_3 and Me_2CO with a purple color, and in dioxane, Br_2H , and Ac_2O with a blue color. It formed a red complex with PhNO_2 . I phenylhydrazone, red, m. 331° (decomp.), cryst. with one mole PbOEt and losing the latter at 81°; orange, did not melt below 265°;azine, yellow needles, decomp. 240°. 50 ml. of I in dil. aq. NaOH and reacidification yielded 1-nitroso-2-hydroxy-5-indanone, yellow crystals, sol. in PhNO_2 with yellow, and in alkali with violet color; acetate, amorphous and yellow, did not melt below 200°. For the structure 1-nitroso-1-in-3-one is proposed as the most probable. Andrew Dravnicka

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L17625 6
Beckmann rearrangement of 2-nitro-1,3-indandione
oxime. G. Vanags and V. Vitols. J. Gen. Chem. U.S.S.R.
25, 1899-1903(1955)(Engl. translation). - See C.A. 50,
5644b. *✓*

APPROVED FOR RELEASE: 09/01/2001

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5

(2)

M. J.

✓ Beckmann rearrangement of 2-nitro-1,3-indandione oxime. G. Vanags and V. Vitols (Inst. Chem., Acad. Sci. Latv. S.S.R., Riga). *Zhur. Organičeskoi Khim.*, 25, 1953-8 (1955); cf. *C.A.*, 43, 3931c.—2-Nitroindan-1,3-diene oxime (10 g.) in 20.0 ml. of Beckmann soln. (prepd. from 400 g. AcOH and 160 g. Ac_2O , satd. with dry HCl) was heated on steam bath until a soln. formed; cooling gave 67% *1-chloro-3-nitro-4-hydroxy-quinoline* (I), m. 212-13°. A 77% yield was obtained from the use of POCl_3 in AcOH on a steam bath, while spontaneous reaction of these reagents gave an 85.3% yield. I heated with concd. H_2SO_4 on a steam bath gave phthalimide, while oxidation of I with aq. KMnO_4 gave the same substance. Refluxing I with Ac_2O gave its acetate, m. 186° (from EtOH). Reduction of 10 g. I with 40 ml. III (d. 1.52) and 10 g. red P gave 69.6% *1,4-dihydroxyisoquinoline* III salt, which heated with H_2O_2 hydrolyzed to the free base, amorphous yellow solid, decom. below 250°, *tartrate*, m. 218°. If the above III salt is treated with aq. KOH and the soln. is evapd. and the dark ppt. is boiled with EtOH, there is formed *carbindigo*, deep red, m. above 400° (from PhNO_2); the same forms upon oxidation of the dihydroxy deriv. with H_2O_2 in hot dil. HCl. Heating carbindigo with fuming HNO_3 gave *phthalonimide*, m. 224-5°.

G. M. Kosolmara

SHIBALOV, I., inzhener; VITOLS, Ya., inzhener.

Conveyer for shaping roofing tiles. Stroi.mat., izdel. i konstr.
2 no.2:39 F '56. (MLRA 9:6)
(Latvia--Tiles, Roofing)

VITORL, V.N.; VANAGS, G.J.

Salts of the 2-nitroindandione-1,3 oxime. Zhur. ob. khim 25
(MLRA 8:6)
no.3:576-580 Mr '55

1. Institut khimii Akademii nauk Latvijskoy SSR
(Indandione)

STEFANOVIC, G.; VITOROVIC, D.

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